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Network Working Group
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TELNET TERMINAL LOCATION NUMBER OPTION

Status of this Memo

This RFC proposes a new option for Telnet for the ARPA-Internet community, and requests discussion and suggestions for improvements. Distribution of this memo is unlimited.

Overview

In a community of users that share a large degree of common facilities, it is often advantageous to use some common feature to improve software performance and reduce initial implementation costs.

In March of 1982, CMU designed and implemented based on the growing CMU PUP-based network a terminal location database and modified existing network software to handle a 64-bit number which some call the Terminal Location Number or TTYLOC for short. The number can be efficiently stored in operating systems tables and can be passed between various levels of operating system and network layering with minimum modifications to existing software. An initial evaluation of changing software to communicate an unfixed or reasonable length terminal location string indicated it would be expensive.

CMU now wishes to extend this mechanism into the TCP-based networking support that is replacing the existing PUP-based software. The mechanism is not viewed as a replacement for the Telnet Terminal Location (SEND-LOCATION) Option but as a shorthand mechansim for communicating hosts in the same community.

TTYLOC Number

The TTYLOC number is a 64-bit number composed of two (2) 32-bit numbers: The 32-bit official ARPA Internet host address (may be any one of the addresses for multi-homed hosts) and a 32-bit number representing the terminal on the specified host. The host address of [0.0.0.0] is defined to be "unknown", the terminal number of FFFFFFFF (hex, r or-1 in decimal) is defined to be "unknown" and the terminal number of FFFFFFFE (hex, or -2 in decimal) is defined to be "detached" for processes that are not attached to a terminal.

1. Command Name and Option Code

   TTYLOC 28

2. Command Meanings

   IAC WILL TTYLOC

      The sender offers to send the TTYLOC information or confirms that it can send the TTYLOC information.

   IAC WON'T TTYLOC

      The sender refuses to send the TTYLOC information.

   IAC DO TTYLOC

      The sender requests to receive the TTYLOC information or confirms that it will receive the TTYLOC information.

   IAC DON'T TTYLOC

      The sender refuses to receive the TTYLOC information.

   IAC SB TTYLOC <format> <TTYLOC number with IAC doubling> IAC SE

      The sender is transmitting the TTYLOC information. The 64-bit TTYLOC number has format 0. The first 32-bits is the Internet host number and the second 32-bits is the line on the specified Internet host. The bytes are in most significant 8-bit byte to least significant byte order.

3. Default Specification

   WON'T TTYLOC

      TTYLOC information will not be sent.

   DON'T TTYLOC

      TTYLOC information will not be received.

4. Motivation

Many systems provide a mechanism for finding out where a user is logged in from usually including information about telephone extension and office occupants names. The information is useful for physically locating people and/or calling them on the phone.

For incoming network connections to a host, only the remote host's name is available. This option and the Telnet Terminal Location option (RFC-779) provide the information to the system so it in turn can provide the information to the various mechanisms (FINGER, WHOIS, etc.).

5. Description of the Option

When the user Telnet connects to a remote host, it can attempt to send the terminal location number information by doing a IAC WILL TTYLOC command. If the Telnet server can use the information, it replies with a IAC DO TTYLOC command. The user Telnet then sends the TTYLOC number in the subnegotiation.

It is recommended that if sending the TTYLOC number is refused then the Telnet Terminal Location (SEND-LOCATION in RFC-779) should be attempted.

The following are two example usage scenarios:

User Side First:

(User) Host1: IAC WILL TTYLOC

Host1 is asking if it can send the 64-bit terminal location number (I will send...).

(Server) Host2: IAC DO TTYLOC

Host2 indicates to Host1 that it will accept the 64-bit terminal location number in a subnegotiation (You please do ...).

(User) Host1: IAC SB TTYLOC 0 <64-bit number> IAC SE

Host1 is sending the location number to Host2 which can communicate the number to the operating system or other system components.

Server Side First:

(Server) HostA: IAC DO TTYLOC

HostA indicates to HostB that it would like to know the 64-bit terminal location number (You please do ...).

(User) HostB: IAC WILL TTYLOC

HostB agrees to send the 64-bit terminal location number to HostA in a subnegotiation (I will send...).

(User) HostB: IAC SB TTYLOC 0 <64-bit number> IAC SE

HostB is sending the location number to HostA which can communicate the number to the operating system or other system components.